

WHAT IS CLAIMED IS:

1. In a tilt-in window having sashes that ride in tracks in a window frame, wherein said sashes have tilt latches that extend a predetermined distance into said tracks, a spring anchor mount for holding springs used to counterbalance the sash, said spring anchor mount comprising:

a body having a top and a bottom, wherein said body defines a recessed area that extends from said top to said bottom that is recess a depth longer than said predetermined distance;

a mounting structure for mounting said body in a fixed position within the window track; and

a retaining structure of coupling said body to a curl spring.

2. The spring anchor mount according to Claim 1, wherein said body has side walls and said retaining structure for coupling said body to a curl spring is disposed on said side walls.

3. The spring anchor mount according to Claim 2,

wherein said retaining structure includes protrusions that extend from said side surfaces.

4. The spring anchor mount according to Claim 1, wherein said mounting structure is at least one screw hole.

5. The spring anchor mount according to Claim 1, wherein said mounting structure includes a retractable locking mechanism that can be selectively configured to lock said body in a fixed position within the window track.

6. The spring anchor mount according to Claim 1, wherein said mounting structure includes a spring having a first end and a second end, wherein said spring forms a loop between said first end and said second end, said spring being disposed in said body, wherein said first end and said second end of said spring extend out of said body and wherein said first end and said second end of said spring retract back into said body when said loop of said spring is expanded.

7. In a tilt-in window assembly having a window sash with a pivot post that extends from the window sash, a shoe assembly for use in a counterbalance system for the window sash, said shoe assembly comprising:

a shoe body having a face surface, a rear surface and two side surfaces that extend between said face surface and said rear surface;

an internal chamber defined within said shoe body between said face surface and said rear surface, wherein said internal chamber is accessible through opposing holes in said side surfaces of said shoe body;

a post access hole disposed in said face surface of said shoe body that intersects said internal chamber;

a spring having a first end and a second end, wherein said spring forms a loop between said first end and said second end, said spring being disposed in said internal chamber, wherein said first end and said second end of said spring extend out of said internal chamber through said opposing holes in said side surfaces, and wherein said first end and said second end of said spring retract back into said shoe body when said loop of said spring is expanded within said internal chamber.

8. The shoe assembly according to Claim 7, wherein the pivot post of the window sash passes into said loop through said post access hole and expands said loop when the window sash is not tilted.

9. The shoe assembly according to Claim 7, wherein said spring is comprised of a single strand of formed wire.

10. The shoe assembly according to Claim 7, further including at least one rib protrusion extending from each of said side surfaces.

11. A shoe assembly for a tilt-in window counterbalance system, comprising:

a shoe body having a face surface, a rear surface and two side surfaces that extend between said face surface and said rear surface;

at least one rib protrusion extending from each of said side surfaces, wherein said at least one rib protrusion has a width smaller than that of said side surfaces and prevents said side surfaces from directly wearing against another surface.

12. The shoe assembly according to Claim 11, further including a brake mechanism for locking said shoe assembly in a set position when the sash of the tilt-in window is tilted.

13. The shoe assembly according to Claim 12, wherein said brake mechanism includes a looped wire spring having two opposing arms, that is positionable in an extended position, where arms of said looped wire spring extend beyond said rib protrusions, and a retracted position where arms of said looped wire spring do not extend beyond said rib protrusions.

14. In a tilt-in window assembly having window sashes, a frame surrounding the window sashes, tracks in said frame, and tilt latches that electively engage the sashes with the track when the sashes are not tilted, a counterbalance system for each window sash, comprising:

a set of brake shoes, wherein one brake shoe engages opposite sides of each window sash, each of said brake shoes having a first mounting hole, wherein each of said brake shoes is movable within the tracks of the

tilt-in window assembly until the window sash is tilted;

curl springs, wherein each said curl spring has a free end;

spring anchors for selectively receiving said free end of said curl springs and mounting said free end of said curl springs to a fixed position within the tracks of the window frame, wherein said spring anchors are sized so that the tilt latches of the window sashes can travel past the spring anchors in said track without contacts said spring anchors.

15. The counterbalance system according to Claim 14, wherein each said brake shoe contains a wire spring having two ends, wherein said ends of said wire spring extend from said brake shoe and engage the track of the window frame when a window sash is tilted.

16. The counterbalance system according to Claim 14, wherein each said brake shoe has a face surface, a rear surface, two side surfaces that extend between said face surface and said rear surface, and at least one rib protrusion extending from each of said side surfaces,

wherein said at least one rib protrusion has a width smaller than that of said side surfaces and prevents said side surfaces from directly wearing against the track of the window frame.

17. The counterbalance system according to Claim 15 wherein said wire spring defines a loop between said two ends, said spring being disposed within said brake shoe, wherein said two ends of said spring extend out of said brake shoe when said loop of said spring is not deformed within said brake shoe.

18. The counterbalance system according to Claim 14 wherein each of said spring anchors has a body that defines a recessed area along the entire body;

    a mounting structure for mounting said body in a fixed position within the window track; and

    a retaining structure of coupling said body to a curl spring.